REMARKS

Applicants have filed this Response to Office Action in response to the Final Office Action dated May 21, 2009. Claims 1-2, 4-12, 14-22 and 27-28 are pending for prosecution. Claims 1, 14, and 28 are independent. Claims 1-2, 4-12, 14-16, and 27-28 have been amended. Applicant respectfully requests the withdrawal of all outstanding rejections and objections and the allowance of all pending claims.

I.   Claim Rejections - U.S.C. § 101

Claims 1-2, 4-12, 14-16 and 27-28 were rejected under 35 U.S.C. § 101. The Examiner asserts that these claims recite a "mapping method of classifying a plurality of information items in an information retrieval system" in the preamble but that the body of the claims fails to reflect any mapping or classifying. The Application respectfully disagrees. Claim 1 has been amended to provide for a definite physical means to run the claimed functions. In addition, amended Claim 1 specifically claims the step of "establishing that an integer-weight relationship link exists between said first informational item and said second information item" and "determining an integer-value weight based on the historical frequency of said relationship link." These are steps that link two pieces of information together using a "mapping" method to do so. In addition, the step of "assigning said integer-value weight to the output of said ensemble of algorithms" is a way to classify information. The Applicant therefore respectfully requests withdrawal of the claim rejections.

The Examiner cites *Bilski* against the present application asserting that the invention seems to be software per se without having any hardware device to perform the claimed functions. This is the first instance that the Examiner has raised this issue and the Applicant has

amended Claims 1, 2, 4-12, 14-16, 27 and 28 accordingly. Therefore, the Applicant respectfully

requests that these amendments be entered.

Claims 14-16 were also rejected under 35 U.S.C. § 101. The Examiner asserts that "the

instant disclosure fails to map the specific physical means to the claimed functions, as such, the

claimed means seemed to be software per se without having any hardware device to perform the

claimed functions." Claims 14-16 have been amended to provide for a definite physical means

to run the claimed functions. The Applicant therefore respectfully requests withdrawal of the

claim rejections.

II.   Claim Rejections – U.S.C. § 112

Claims 1-2 and 4-12 were rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

Applicant regards as the invention. Claim 1 is independent. Claims 2 and 4-12 depend from

independent Claim 1. The Examiner asserts that "said ensemble of algorithms" and "the output

of said ensemble of algorithms" is indefinite subject matter. However, an "ensemble of

algorithms" is a term used to mean many different problem-solving algorithms. As an

illustrative example (and not intended to be limiting) a group of algorithms may include

recursive, backtracking, divide and conquer, dynamic programming, branch and bound, or brute

force type algorithms. Any of these types of algorithms and other types not mentioned can make

up "an ensemble of algorithms" that are applied to items or data and then produce an output. An

algorithms applied to data will produce an output or outcome of some sort. Therefore, both the

"ensemble of algorithms" and the "output" produced from those algorithms are definite.

Additionally, it is requested that the rejection to Claims 2, and 4-13 are withdrawn as these

claims depend from Claim 1 are fully described and supported by the specification.

Additionally, Claim 9 was also rejected. According to page 6 of the Office Action "[a]s to Claim 9, what does it meant by 'said relationship link is positioned in a list in direct proportion to the degree of consensus among said ensemble of algorithms (i.e., what is the metes and bounds of the claimed 'a list' and 'ensemble of algorithms'? which unit measure the degree of consensus among said ensemble of algorithms and how to do it?)" The specification of the instant application fully supports and makes definite all recited claim terms and shape. Paragraphs 0049 and 0050, as well as in various other places in the specification supports that relationship links are "positioned in a list." Paragraphs 0049 and 0050 illustrate and explain Table 1 which is a type of list of records. Thus, for at least the aforementioned reasons Applicant respectfully requests reconsideration and withdrawal of these rejections under 35 U.S.C. § 112 second paragraph of Claim 9.

III.   Claim Rejections - 35 U.S.C. § 103

A.   Obviousness

When determining the question of obviousness, underlying factual questions are presented which include (1) the scope and content of the prior art; (2) the level of ordinary skill in the art at the time of the invention; (3) objective evidence of nonobviousness; and (4) the differences between the prior art and the claimed subject matter. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). Moreover, with regard to the last prong of the Graham inquiry, "[t]o determine whether there was an apparent reason to combine the known elements in the way a patent claims, it will often be necessary to look to interrelated teachings of multiple patents; to the effects of demands known to the design community or present in the marketplace; and to the background knowledge possessed by a person having ordinary skill in

the art. To facilitate review, this analysis should be made explicit." KSR International v.

Teleflex Inc., 127 U.S. 1727 (2007).

The person of ordinary skill in the art is a hypothetical person who is presumed to know

the relevant prior art. Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc., 807 F.2d 955, 962,

1 USPQ2d 1196, 1201 (Fed. Cir. 1986). The level of ordinary skill in the art of computer

programming may be determined by looking to the references of record. In re GPAC, Inc., 57

F.3d 1573, 35 USPQ2d 1116 (Fed. Cir. 1995). The references of record in this case reveal that a

moderately high level of sophistication in is present in the subject area of the subject area of the

instant application. Thus, Applicant submits that, as substantiated by the cited references, those

with at least a bachelor's degree in computer science or some experience in computer

programming or the like would most likely be a person with ordinary skill in this field of

endeavor.

With respect to objective evidence of nonobviousness, Applicant submits that the record

supports the conclusion that there are long-felt but unsolved needs met by the present invention.

For at least this reason Applicant respectfully submits that the claimed invention is not obvious

in view of the cited references.

Finally, prima facie obviousness requires that there must be some suggestion or

motivation, either in the references themselves or in the knowledge generally available to one of

ordinary skill in the art, to modify the references. This motivation-suggestion-teaching test

informs the Graham analysis. "To reach a non-hindsight driven conclusion as to whether a

person having ordinary skill in the art at the time of the invention would have viewed the subject

matter as a whole to have been obvious in view of multiple references," there must be "some

rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is

correct." <u>In re Kahn</u>, (Fed. Cir. 2006). The recent *KSR International* decision by the Supreme

Court has not eliminated the motivation-suggestion-teaching test to determine whether prior art

references have been properly combined. Rather, in addition to the motivation-suggestion-

teaching test, the Court discussed that combinations of known technology that are "expected"

may not be patentable. Stated in the affirmative, therefore, combinations are nonobvious and

patentable if unexpected. In the present application, no single prior art reference nor any

combination thereof (legitimate or otherwise) meets the claimed limitations of Applicant's

invention.

B.   Rejection of Claims 1-2, 4-12, 14-22 and 27-28

Claims 1-2, 4-12, 14-22 and 27-28 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over Horvitz et al (U.S. Pat. No. 6,182,133) in view of Wical (U.S. Pat. No.

5,904,821). For the following reasons, Applicant respectfully requests reconsideration and

withdrawal of this rejection. The Applicant has previously addressed many of the issues cited by

the Examiner. It appears that the Examiner may be viewing the instant application in a very

detailed, but in a somewhat piecemeal fashion and that may cause several key concepts that

distinguish the Horvitz (and similarly the Wical) patent from the present invention to be

obscured. Accordingly, the following is respectfully intended to help clarify those key concepts.

The Examiner claims that the Applicant has not specifically stated what the novelty of the

present invention is; however, in the Applicant's Response to Office Action dated 3/5/2009 and

the declaration filed with the Response to Office Action, the Applicant clearly points to several

novel features of the present application. For instance, the present application builds

relationships between informational items or documents not exclusively based on any user

behaviors (as with Horvitz), but based on similarities between the informational items or

documents (such as textual similarities). The method claimed in the present application is for

analyzing informational item relationships based upon the technical approach known in the art

called ensembles of algorithms, which is an approach that uses multiple distinct algorithms

which each supply a suggestion for the result and an arbiter algorithm that chooses the final

result from amongst the suite of algorithms. As claimed in Claim 1 of the present application,

"an ensemble of algorithms" determines an integer-weight relationship link between

informational items. The system then augments the user behavior similarities (integer-value

weight) with the document similarities (integer-weight relationship link) to produce a combined

similarity value (the output). The "ensemble of algorithms" is applied "to the first and second

informational items relative to said inter-value weight of said relationship link" which will

produce an output. That output is then stored. The ensemble of algorithms processes the given

values without needing to consider any existing explicit relationships between the informational

items. Contrary to Horvitz, this approach allows the inclusion of relationships that go beyond

usage relationships when there has been no usage data available for a given set of informational

items. By identifying a first and second informational item and then "applying an ensemble of

algorithms to determine a relationship link between said first and second information items" a

previous relationship does not need to exist. The present claimed invention, unlike the prior art,

uses an ensemble of algorithms to determine relationships between informational items.

Neither Horvitz nor Wical independently or in combination provide the full system of the

present claimed invention, nor do they envisage the present application, nor do they describe the

algorithmic methodology. With these missing elements, the combination of Horvitz and Wical,

while not obvious to combine in the first place, also misses key elements of the present claimed

application. It is the considered opinion of the Applicant that the examiner used a hindsight

construction to combine Horvitz and Wical, and did so in a piecemeal fashion that overlooked

the explicitly stated approaches of Horvitz. As a clarifying visual aid, the Applicant submitted

the summary drawings of the Horvitz and Wical systems by way of declaration to more clearly

illuminate the distinctions. The Examiner has rejected these expert summaries, even though the

declaration was by an expert in the field of computer science, asserting that "one can't be the

export of the prior art issued to Horvitz et al & Wical, unless she/he is one of the

owners/inventors of the prior art." According to MPEP § 716.01 evidence traversing rejections

"must be considered by the examiner whenever present." There is nothing in the rules that says

that because the declaration submitted was not by the inventor of the prior art that it should not

be considered. In the expert's declaration, he states that "these references do not render the

claimed invention obvious." In addition, the expert declared that "Horvitz's teaching . . . does

not disclose, among other steps, ensemble approaches as used specifically in the art to include a

suite of independent algorithms operating in concert to produce results from the same input data

and then said results are chosen between or combined by a subsequent algorithm." However,

these steps are claimed in the present application whereby "applying an ensemble of algorithms

to determine an integer-weight relationship link between said first and second informational

items" and "applying said ensemble of algorithms to said first and said second informational

items relative to said integer-value weight of said relationship link to produce an output."

Therefore, an expert in the field has determined that the combination of Horvitz and Wical is

nonobvious to a person of ordinary skill in the art.

    Further, the Horvitz invention creates a system for pre-fetching pages in a browser

session, with the likely intent of providing a perceived faster browser response rate. See Horvitz

Abstract. The Horvitz system does this pre-fetching based upon a single algorithm based upon

the explicit blending of one or more of the following: web log usage statistics, expert

expectations of user behavior, or individual user behavior models. In spite of the Examiner's

protestations, Horvitz does not describe the use of an ensemble of algorithms, a technique with a

specific meaning in the art. An ensemble of algorithms is a group of algorithms that work

together as a committee to solve a problem. Hence, Horvitz describes a system of predicting

page transitions between documents explicitly linked to the present page a user is viewing rather

than, as in the claimed invention, using an ensemble of algorithms to produce integer-weight

relationship links or a final value that incorporates both the integer-weight relationship link and

an integer-weight based on historical frequencies. The use of an ensemble of algorithms is not

present in the prior art.

The Wical invention is nothing more than an advanced search engine which matches user

search terms against the contents of documents. This type of search engine matching does not

implore the use of an ensemble of algorithms to score relationship links, historical frequencies of

those links, or produce a usage value for searching such items. The Examiner combines Horvitz

and Wical only to gain the weighting scheme described in Wical and these schemes are

completely distinctly from the claimed integer-value weighting scheme of the claimed invention.

Wical uses weighting in response to an explicit user search query, whereas the present invention

uses algorithms to produce weighting that builds document relationships in the absence of any

user behavior or query.

The Examiner has gone beyond the existing art in attempting to equate it to the instant

application for rejecting Claims 1-2, 4-12, 14-22 and 27-28. Horvitz's teachings do not address

many of the steps as claimed by the Applicant and specifically does not disclose, among other

steps, ensemble of algorithms used specifically in the art to include a suite of independent

algorithms operating in concert to produce results from the same input data and then said results

are chosen between or combined by a subsequent algorithm. Further, Wical fails to consider the

specific use of ensembles, and so can not specifically consider the output or joining of the results

of these distinct elements. Applicant therefore respectfully submits that neither Horvitz nor

Wical or any legitimate combination thereof teach or suggest all of the limitations of Claims 1-2,

4-12, 14-22 and 27-28.

IV.   Conclusion

If any issue regarding the allowability of any of the pending claims in the present

application could be readily resolved, or if other action could be taken to further advance this

application such as an Examiner's amendment, or if the Examiner should have any questions

regarding the present amendment, it is respectfully requested that the Examiner please telephone

Applicant's undersigned attorney in this regard. Should any fees be necessitated by this

response, the Commissioner is hereby authorized to deduct such fees from Deposit Account No.

11-0160.

Respectfully submitted,

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